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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/081,949 | 02/22/2002 | Satoshi Hosokawa | 15307 | 9794 |
| 23389 | 7590 | 10/04/2005 | | |
| SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530 | | | EXAMINER UPRETI, ASHUTOSH | |
| | | | ART UNIT 2623 | PAPER NUMBER |

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/081,949 | | HOSOKAWA, SATOSHI | |
| | Examiner | | Art Unit | |
| | Ashutosh Upreti | | 2623 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02/22/02, 02/06/03, 03/02/04</u> | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

On page 4, at line 3, it states that a 3rd light emitting device emits a second light of a second color. It seems that this should actually say that the 3rd light emitting device emits a 3rd light of a 3rd color (given that on page 3, at lines 14-15, the 2nd light emitting device is described as doing this). The examiner suggests that the applicant review the entire application to ensure the light emitting device numbers, light numbers and color numbers, are all correct, as this application has several errors of a similar nature. Two more examples of inconsistencies noticed by the examiner are line 15 on page 13 (the 2nd light emitting device has been numbered as 14 on the previous page but here the 3rd device is given the same number) and page 14, line 10 (the 1st device is labeled as 3 on the previous page but is shown as 14 here).

Appropriate correction is required.

Claim Objections

Claims 9 and 14 are objected to because of the following informalities:

As to claim 9, the claim ends with a semi-colon instead of a full stop (changing this to a full stop would cure this problem).

As to claim 14, on line 3 of the claim, "generating a verification impossible" does not make sense (adding the word 'signal' after 'impossible' would cure this problem).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 8, on lines 10-13 of the claim, it is not clear as to whether the power supply is lighting up all three light emitting devices or just one at a time. Claim 9 is rejected as it depends from claim 8.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 2, lines 3 and 4 of the claim seem to contradict parts of the specification (page 13, lines 15-20) which say that the 3rd light emitting device should

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emit a 3rd light and a 3rd color. It also causes further confusion as claim 1 says that the 2nd light emitting device emits a 2nd light of a 2nd color.

As to claim 10, lines 8-12 of the claim mention two "another" sides of the prism. It is not clear if these are meant to be the same side or if they are different from each other.

Claim 3 recites the limitation "said first to third colors" in line 2. There is insufficient antecedent basis for this limitation in the claim (no third color in claim 1).

Claim 4 recites the limitation "said third color" in line 3. There is insufficient antecedent basis for this limitation in the claim. Claim 5 is rejected as it depends from claim 4.

Claim 7 recites the limitation "said third light" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "said first to third light" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim (no third light in claim 1).

Claim 10 recites the limitation "said first to third lights" in lines 3-4, 7 and 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation " said third light " in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "said first to third colors" in line 2. There is insufficient antecedent basis for this limitation in the claim (there is no third color in claim 12).

Claim 16 recites the limitation "said third color" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Claim 17 is rejected as it depends from claim 16.

Claim 18 recites the limitation " said third light " in lines 7-8. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 11 rejected under 35 U.S.C. 102(b) as being anticipated by Lilley (US Patent 4,995,086).

As to claim 1, Lilley discloses a fingerprint verifying apparatus (column 2, line 60-61) comprising: a first light emitting device which emits first light of a first color (column 5, lines 37-38. Also, the reference mentioned in column 5, lines 27-29 of Lilley describes the color of the emitted light to be like the white light of a regular light bulb or any other color as desired (see Ruell, US Patent 4,428,670, column 3, lines 61-62). The examiner considers the white/yellow light that is emitted from regular light bulbs to be within the "middle color" range described on page 14 of the instant application, especially given that Ruell says that any wavelength of light can be chosen); a second light emitting device which emits second light of a second color (column 6, lines 55-57,

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second color can green); an imaging unit which detects an image of a fingerprint of a finger from said first light reflected by a finger (column 5, lines 42-46); a fingerprint verifying circuit which has registered fingerprint images, and compares said detected fingerprint image and each of said registered fingerprint images to determine whether said detected fingerprint image is coincident with any of said registered fingerprint images (column 3, lines 45-54 – here the fingerprint stored on the plastic card and read by the terminal is considered a registered fingerprint as it is used for reference purposes), and outputs a match signal when said detected fingerprint image is coincident with any of said registered fingerprint images (column 3, lines 54-55); and a drive switch which turns on said second light emitting device in response to said match signal (column 3, lines 55-58 and column 6, lines 44-46 and lines 55-57).

As to claim 2, Lilley as applied above further discloses a third light emitting device which emits a third light of a third color (column 6, line 57, third color can be red), and said fingerprint verifying circuit outputs a mismatch signal when said detected fingerprint image is not coincident with any of said registered fingerprint images, and said drive switch turns on said third light emitting device in response to said mismatch signal (column 6, lines 44-46 and 55-57).

As to claim 3, Lilley as applied above further discloses wherein said first to third colors are different from each other (as mentioned above in the rejection of claims 1 and

2, the first color is white like the light from an ordinary bulb, the second color is green and the third color is red).

As to claim 4, Lilley as applied above further discloses wherein said second color is of a cool color system (green is the second color as mentioned above and is considered a cool color according to page 14 of the instant specification), and said third color is of a warm color system (red is the third color as mentioned above and is considered a warm color according to page 14 of the instant specification).

As to claim 5, Lilley as applied above further discloses wherein said first color is of a middle color system between the cool color system and the warm color system (as discussed in the rejection of claim 1, the white/yellow light of a regular light bulb is a middle color as defined in the instant specification on page 15).

As to claim 11, Lilley as applied above further discloses wherein said imaging unit, said first to third light emitting devices and said finger detector are made as a unitary body (Figure 1 and column 2, lines 19-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lilley.

As to claims 6 and 7, Lilley does not expressly disclose that the light emitting devices can be blinking.

The examiner takes official notice that it is well known in the art for light emitting devices to be made to blink. It would have been obvious, at the time the invention was made, to a person of ordinary skill in the art to make the light emitting devices blink as many applications involving light emitting devices as indicators, make the devices blink. Doing so would help capture a users attention, therefore resulting in the light emitting device being a better indicator, thus providing motivation.

As to claim 8, Lilley as applied above discloses a power supply circuit which supplies power (this is inherent as the whole system e.g. column 6, lines 55-57, contains electronic devices that by their very nature require power to operate). Lilley also discloses that a drive switch supplies the power from said power supply circuit to said first to third light emitting device in response to said detection signal (column 6, lines 44-46 and 55-57 – here the examiner assumes that only one light needs to be turned on in response to a verification decision signal and this interpretation is considered reasonable as the claim language is not clear as has been mentioned in the USC 112 rejections above). Although it is likely to have a somewhat similar configuration, Lilley does not expressly disclose a first switch provided between said

power supply circuit and said fingerprint verifying circuit to supply the power from said power supply circuit to said fingerprint verifying circuit in response to a detection signal.

The examiner takes official notice that it would be obvious to have a switch provided between said power supply circuit and said fingerprint verifying circuit to supply the power from said power supply circuit to said fingerprint verifying circuit in response to a detection signal (a detection signal could be an 'on' button being pushed or a finger detected) as it is well known in the art. Doing so would be similar to a common 'standby' mode whereby the circuit is not powered up unless it is actually needed, therefore saving power, thus providing motivation.

Claims 9 and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lilley as applied to claim 1 above, and further in view of Sayag (US Patent 5,801,681).

As to claim 9, Lilley does not expressly disclose a finger detector which detects that said finger is put thereon to generate a detection signal.

Sayag discloses a finger detector which detects that said finger is put thereon to generate a detection signal (column 10, lines 8-17).

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to generate a detection signal based on a detected finger as in Sayag, in the device of Lilley, as they both involve fingerprint verification. Doing so would save power (column 10, lines 14-16 of Sayag), thus providing motivation.

As to claim 12, Lilley as applied above discloses all the limitations of claim 12 (see the rejection of claim 1) but does not expressly disclose limitation (e) in response to said match signal, turning off said first light emitting device and turning on said second light emitting device such that second light of a second color is emitted.

Sayag discloses in response to a match signal, turning off a first light emitting device and turning on a second light emitting device such that second light of a second color is emitted (column 10, lines 29-35).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to turn one LED off and another on as in Sayag, when a user's finger print has been matched in Lilley as they both involve using indicator lights to communicate information to users of fingerprint verification devices. Doing so would minimize power dissipation (column 10, lines 19-20 of Sayag – having more that the required LED on wastes power) and also enable the user to clearly see the color of the emitted light (having both red and green on at the same time could be confusing to a user), thus providing motivation.

As to claim 13, Lilley as applied above further discloses (f) generating a mismatch signal when said detected fingerprint image is not coincident with any of said registered fingerprint images (column 3, lines 54-58); and in response to said mismatch signal, turning on said third light emitting device such that third light of a third color is emitted (column 6, lines 55-57).

Lilley does not expressly disclose in response to said mismatch signal, turning off said first light emitting device.

Sayag discloses in response to a signal, turning off said first light emitting device (column 10, lines 30-35). The instant application simply turns of the first light when it is not needed (and when it may interfere with other light colors), as does Sayag. The examiner sees the sequence of events as being essentially the same from the point of view the claimed inventions functionality.

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to turn the first light off as in Sayag prior to turning on the third light as in Lilley, as they both involve using indicator lights to communicate information to users of fingerprint verification devices. Doing so would minimize power dissipation (column 10, lines 19-20 of Sayag – having more that the required LED on wastes power) and also enable the user to clearly see the color of the emitted light (having both red and green on at the same time could be confusing to a user), thus providing motivation.

As to claim 14, Lilley as applied above does not expressly disclose (h) generating a verification impossible signal when it cannot be determined whether or not said detected fingerprint image is coincident with any of said registered fingerprint images; and (i) continuing said first light emitting device to be turned on, in response to said verification impossible signal.

The examiner takes official notice that it would be obvious to a person of ordinary

skill in the art to (h) generate a verification impossible signal when it cannot be determined whether or not said detected fingerprint image is coincident with any of said registered fingerprint images; and (i) continuing said first light emitting device to be turned on, in response to said verification impossible signal. This is simply a common default mode. For example, in the case when a fingerprint has not been able to be properly detected, the device would keep the first light on in an attempt to get a proper fingerprint reading. Doing so would reduce false errors being reported by the system and enable the system to be more robust to common use where users may not always correctly place a finger the first time around and may then attempt to move the finger slightly in order to get a proper reading, thus providing motivation.

As to claim 15, the limitations of the claim are rejected for the same reasons as given in the rejection of claim 3.

As to claim 16, the limitations of the claim are rejected for the same reasons as given in the rejection of claim 4.

As to claim 17, the limitations of the claim are rejected for the same reasons as given in the rejection of claim 5.

As to claim 18, the limitations of the claim are rejected for the same reasons as given in the rejections of claims 6 and 7.

As to claim 19, the limitation of the claim regarding detecting that a finger is present, to generate a detection signal, are rejected for the same reasons as given in the rejections of claim 9. As to the limitation regarding activating said steps (a), (c), (d) and (e) in response to said detection signal, Sayag as shown above in the rejection of claim 9 (and as shown further in column 10, lines 18-37 of Sayag) discloses that the detection of a finger results in all the above steps taking place.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lilley as applied to claim 1 above, and further in view of Steinberg (US Patent 6,433,818).

Lilley as applied above discloses use of three different light emitting devices.

Lilley as applied above does not expressly disclose a prism which passes said first to third lights to said finger and said first light reflected by the finger to said imaging unit, and wherein said finger detection is put on one plane of said prism, said first to third light emitting devices are provided on a side of another plane of said prism to emit said first to third lights to said prism, and said imaging unit is provided on a side of another plane of said prism to receive said reflected first light.

Steinberg discloses a prism (Figure 12, element 172) which passes light to said finger and said light reflected by the finger to said imaging unit, and wherein said finger detection (elements 122, 178) is put on one plane of said prism, said light emitting device is provided on a side of another plane of said prism to emit said light to said

prism (element 170), and said imaging unit is provided on a side of another plane of said prism to receive said reflected light (element 182).

It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to use a prism as in Steinberg for reflecting the lights in Lilley, as they both involve illumination of a finger for fingerprinting. Doing so would enable the light incident on the finger to be easily imaged by an imaging device (column 8, lines 2-6) and the prism could also be designed to reflect only particular wavelengths of light, allowing others to go through, thus providing motivation.

Contact Details

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashutosh Upreti whose telephone number is (571) 272-7428. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


JINGGE WU
PRIMARY EXAMINER

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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September 29, 2005